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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,036	12/20/2000	Toshiyuki Matsuzaki	TIJ-29142	8675

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EXAMINER

SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,036

Applicant(s)

MATSUZAKI, TOSHIYUKI

Examiner

Leonid Shapiro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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Drawings

1. Figures 7-9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 11-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The two new added limitations of the independent claim 11: **the wiring substrate having a single level of wiring and wherein wiring on the wiring substrate is connected to the n- input terminals to couple data signals to the inputs of the switching circuits, the wiring being parallel lines** were not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. They were not shown in the drawings.

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The new added dependent claims 14, 17-18 and 25 were not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. They were not shown in the drawings.

The new added dependent claims 15, 19-21 and 26 wherein wiring between the n input terminals and the switching circuit comprise a **continuous loop** between a first terminal, an input to the switching circuit and a second input terminal were not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Fig. 5 is showing a connection between a first terminal, an input to the switching circuit and a second input terminal connection. A **continuous loop** was not shown in the drawings.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-12, 22-23 as best understood by examiner are rejected under 35 U.S.C. 103(a) as being unpatentable over Dingwall (US Patent No. 5,739,805) in view of Mical et al. (US Patent No. 6,191,772 B1) and further in view of Cha et al. (US Patent No. 6,519,020 B1).

As to claim 11, Dingwall teaches a module for a display device comprising: a plurality of integrated circuits mounted on the wiring substrate, each integrated circuit having inputs

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coupled to n input terminals (where n is a natural number and $n \geq 2$) to receive a data signals (See Fig. 4, items 210, DATA (9:0), in description See Col. 5, Lines 23-28).

Dingwall do not teach switching circuit generating n output signals coupled to a drive signal generation circuit for driving the display device, the switching circuit sequentially connects first through n -th input terminals to first through n -th output terminals respectively when a control signal is at the first logical level and sequentially connects first through n -th input terminals to first through n -th output terminals respectively when a control signal is at the second logical level.

Mical et al. teaches cross-over unit which can place appropriate even or odd-numbered pixel signals on respective side buses (See Fig. 1, items 150, 151, 154, in description See Col. 13, Lines 46-63). It would have been obvious to one of ordinary skill in the art at the time of invention to implement Mical et al. approach in the Dingwall apparatus applying it to first through n -th input terminals to first through n -th output terminals respectively in order to avoid the need of a row buffer (See Col. 3, Lines 51-54 in Mical et al. reference).

Dingwall and Mical et al. do not show a plurality of integrated circuits mounted on the wiring substrate in juxtaposition, a wiring substrate having a single level of wiring, the wiring connected to the n input terminals to couple data signals are being parallel lines.

Cha et al. teaches TCPs (tape carrier package) side by side (See Fig. 1, item 50, in description See Col. 4, Lines 43-45), a wiring substrate having a single level of wiring for both gate and source driving (See Figs. 1-2, in description See Col. 4, Lines 37-64), the wiring connected to the n input terminals to couple data signals are being parallel lines (as being divided by separating slots) (See Figs. 7-10, items 50, 35, in description See Col. 7, Lines 23-41). It

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would have been obvious to one of ordinary skill in the art at the time of invention to implement Cha et al. approach in the Dingwall and Mical et al. apparatus in order to provide a slim lightweight LCD module with less number of manufacturing processes, lower cost and simplified assembly process (See Col. 2, Lines 23-27 in Cha et al. reference).

As to claim 22, Dingwall, Mical et al and Cha et al. do not show control signal coupled to the plurality of integrated circuits is at the first logic level for one integrated circuit of a pair of integrated circuits and is at second logic level for another integrated circuit of the pair. Since even and odd drivers connected in series (See Fig. 9, items Col #1-#128, in description See Col. 10, Lines 54-62), it would have been obvious to one of ordinary skill in the art at the time of invention to use the first logic level for one integrated circuit of a pair and second logic level for another integrated circuit of the pair in the Dingwall, Cha et al. and Mical et al. apparatus in order to provide a slim lightweight LCD module with less number of manufacturing processes, lower cost and simplified assembly process (See Col. 2, Lines 23-27 in Cha et al. reference).

As to claims 12,23 Dingwall teaches n input terminals are arranged linearly in a row (See Fig. 4, items 210, DATA (9:0), in description See Col. 5, Lines 23-28, Fig. 9, items Col #1-#128, in description See Col. 10, Lines 54-62).

4. Claims 13,16 and 24 as best understood by examiner are rejected under 35 U.S.C. 103(a) as being unpatentable over Dingwall, Cha et al. and Mical et al. as aforementioned in claims 11,12 and 24 in view of Voisin et al. (US Patent No. 5, 680, 191).

Dingwall, Cha et al. and Mical et al. do not show the first substrate is a flexible substrate.

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Voisin et al. teaches the first substrate is a flexible substrate (See Figs. 3-4, item 50, in description See Col. 11, Lines 12-15). It would have been obvious to one of ordinary skill in the art at the time of invention to implement approach as shown by Voisin et al. in Dingwall, Cha et al. and Mical et al. apparatus.

Response to Amendment

5. Applicant's arguments filed on 06-10-03 with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection and 35 USC § 112 rejection of this office action.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Telephone inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

ls
June 17, 2003



VIJAY SHANKAR
PRIMARY EXAMINER